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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/569,581	02/23/2006	Nobuhiro Murakami	SHIGCP10AP04AK	5729
27667	7590	02/13/2008		
HAYES SOLOWAY P.C. 3450 E. SUNRISE DRIVE, SUITE 140 TUCSON, AZ 85718			EXAMINER WAKS, JOSEPH	
			ART UNIT 2834	PAPER NUMBER
			MAIL DATE 02/13/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/569,581	Applicant(s) MURAKAMI ET AL.	
	Examiner Joseph Waks	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13 and 15-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13, 15-22 and 24 is/are rejected.
- 7) ☐ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/26/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 recites the limitation "said air flow device" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim, 13, 15-20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 4,366,386) in view of Skarpa (US 6,375,424) and Terracina (WO 02/42640 A1).

Hansen discloses a Magnus type wind power generator 28 having a horizontal rotary shaft 92 transmitting a rotation torque to a power generating mechanism 96, rotary cylindrical columns 36, 38, 40 disposed radially from the horizontal rotary shaft, a motor 76 driving simultaneously the rotary cylindrical columns about axes thereof, wherein Magnus lift generated by interactions between the rotations of the respective rotary columns and wind power causing to rotate the horizontal rotary shaft to drive the power generating mechanism, a cup 46. However, Hansen does not disclose the driving motors driving the respective rotary cylindrical columns about axes thereof, and

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an air flow device generating an air flow component parallel with the axis of the rotary column and in a direction departing from the horizontal rotary shaft upon the outer peripheral surface of the rotary column.

Skarpa discloses Magnus type wind power generator having motors 2 driving the respective rotary columns 8 for the purpose of controlling the column to fit to work with various speed at various speed range.

Terracina discloses the win turbine generator having means and methods for increasing Magnus effect (i.e. lift) including rotating columns 3 and the air flow device 4 including fin member and generating an air flow component parallel with the axis of the rotary column and in a direction departing from the rotary shaft upon the outer peripheral surface of the rotary column (re Figure 4), or in a direction toward the horizontal rotary shaft upon the outer peripheral surface of the rotary cylindrical column (Re Figure 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the wind power generator as taught by Hanson and to provide driving motors driving the respective rotary cylindrical columns about their axes as taught by Skarpa, for the purpose of controlling each column to fit to work with various speed at various speed range according to available wind conditions

It would have been further obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind power generator and to provide the air flow device generating an air flow component parallel with the axis of the rotary column and in a direction departing from the horizontal rotary shaft upon the outer

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peripheral surface of said rotary column as taught by Terracina for the purpose of increasing the Magnus effect, thus improving the generator efficiency by increasing the rotor lift.

Re claim 24, Hansen discloses one motor 76 driving simultaneously three rotating columns 36, 38, 40.

4. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 4,366,386) in view of Skarpa (US 6,375,424) and Terracina (WO 02/42640 A1) as applied to claims 13 and 18 above, and further in view of Shimizu et al. (JP 06-316925).

The combined wind power generator discloses all elements essentially as claimed. However, it does not disclose the plurality of dimples provided upon the outer peripheral surface of the rotary column.

Shimizu et al. disclose the Magnus type machine having rotary columns 4 and 5 furnished with dimples 9, for the purpose of preventing fluid exfoliation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined wind power generator and to provide the dimples as taught by Shimizu et al. for the purpose of preventing fluid exfoliation causing eddy losses during the generator operation.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen (US 4,366,386) in view of Skarpa (US 6,375,424) and Terracina (WO 02/42640 A1) as applied to claims 13 and further in view of Shibata et al. (EP 1327773).

The combined wind power generator discloses invention essentially as claimed. However, it does not disclose driving motors being fewer in number than the number of the rotary columns and being used to drive the rotary columns simultaneously.

Shibata et al. disclose a wind turbine generator having blades 1 driven simultaneously by a single motor 23 for the purpose of adjusting the blades in accordance with the wind velocity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the wind generator as taught by Skarpa and to provide a single motor driving simultaneously several columns as taught by Shibata et al. for the purpose of synchronized activation of the columns in accordance to the wind velocity.

Allowable Subject Matter

6. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed November 26, 2007 have been fully considered but they are not persuasive.

Regarding claims 21 and 22, applicant's argument regarding teaching of Shimizu et al. as being an non-analogous art it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443,

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24 USPQ2d 1443 (Fed. Cir. 1992). In this case, although Shimizu et al. is directed to solving the problem of preventing fluid exfoliation in Magnus type machine furnished with rotating columns and driving VTOL helicopter, it is also applicable to solve the fluid exfoliation in Magnus impellers or propellers serving different applications, like wind turbine motors or generators.

8. Applicant's arguments with respect to claim 13 have been considered but are moot in view of the new ground(s) of rejection.

Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Waks whose telephone number is (571) 272-2037. The examiner can normally be reached on Monday through Thursday 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph Waks/
Primary Examiner, Art Unit 2834

2/08/08